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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KUMAR, PREETI	
ART UNIT	PAPER NUMBER
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,859	EAGLES, DANA	
	Examiner	Art Unit	
	PREETI KUMAR	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-39,42,43,45-48 and 50-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-39, 42-43, 45-48, 50-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11/25/2009 has been entered.

2. Claims 26-39, 42-43, 45-48, 50-56 are pending.

3. Claim 26 is independent.

Response to Argument

4. Applicant's urge that the Rexfelt reference does not teach the structure as claimed in claim 26. Specifically urging that Rexfelt's structure is made of spirally wound strips of fabric, while the instant structure has an array of spiral wound machine direction yarns. Additionally, the cross threads (weft threads) 24 in Rexfelt are interrupted and each have a length w. However, there is no teaching or suggestion in Rexfelt for formation of CD elements while being deposited onto the system of MD yams, as recited in instant claim 26. Furthermore, there is no teaching or suggestion in Rexfelt that the CD elements deposited onto the system of MD yams at least partially encapsulate the MD yams, as recited in instant claim 26.

In response, upon review of the Board decision and amended claims, Examiner finds the Rexfelt structure fabric to anticipate the material limitations of the instant claims since Rexfelt teach a woven base fabric, taking the form of an endless loop and having an inner surface, a longitudinal (machine) direction and a transverse (cross-machine) direction. The lateral edges of the woven base fabric are then trimmed to render them parallel to its longitudinal (machine) direction. The angle between the machine direction of the woven base fabric and the helically continuous seam may be relatively small, that is, typically less than 10.degree. By the same token, the lengthwise (warp) yarns of the woven fabric strip make the same relatively small angle with the longitudinal (machine) direction of the woven base fabric. Similarly, the crosswise (filling) yarns of the woven fabric strip, being perpendicular to the lengthwise (warp) yarns, make the same relatively small angle with the transverse (cross-machine) direction of the woven base fabric. In short, neither the lengthwise (warp) nor the crosswise (filling) yarns of the woven fabric strip align with the longitudinal (machine) or transverse (cross-machine) directions of the woven base fabric. Rexfelt et al. teach two or more spirally-wound layers in which the spiral turns in the different layers are placed crosswise, i.e. such that the longitudinal threads in one layer make an angle both with the machine direction of the press felt and with the longitudinal threads in another layer. Thus, Rexfelt et al. do teach spiral winding of yarns since they teach a fabric strip of yarn material in said first-mentioned layer and the fabric strip of yarn material in said second layer are wound mutually crosswise, such that the longitudinal threads of the fabric strip of yarn material in the second layer make an angle both with said machine

direction of the press felt and with the longitudinal threads of the fabric strip of yarn material in the first-mentioned layer. Also, Rexfelt teach that no irregularities are formed at the loom edges during weaving and the crossed longitudinal threads means an increased flow resistance and that two or more such spirally-applied layers can also be made with different thread spacings in the different layers. See col.3, ln.1-5 and col.5,ln.20-25 and claim 14.

5. Applicant's urge that the Davenport reference does not teach the structure as claimed in claim 26. Specifically urging the structure in Davenport differs from the instant textile structure, in that Davenport's structure does not have a CD component, such as the instant CD elements. In response, the rejection over Davenport is maintained since Davenport teaches that their woven base fabrics may be woven endless, or flat woven and subsequently rendered into endless form with a woven seam. Alternatively, they may be produced by a process commonly known as modified endless weaving, wherein the widthwise edges of the base fabric are provided with seaming loops using the machine-direction (MD) yarns thereof. In this process, the MD yarns weave continuously back-and-forth between the widthwise edges of the fabric, at each edge turning back and forming a seaming loop. A base fabric produced in this fashion is placed into endless form during installation on a papermachine, and for this reason is referred to as an on-machine-seamable fabric. To place such a fabric into endless form, the two widthwise edges are brought together, the seaming loops at the two edges are interdigitated with one another, and a seaming pin or pintle is directed through the passage formed by the interdigitated seaming loops. See (0012). These

interdigitating loops anticipate the claimed language of partial encapsulation. Furthermore, the CD elements are encompassed by the prior art teaching of the Davenport et al. clearly state that that there are no cross-machine-direction (CD) *yarns to UNRAVEL* when the base structure is not woven. The instant claims to do not recite CD yarns but instead recite CD elements. Accordingly, examiner draws attention to figure 6 and paragraphs [0018] and [0049] where Davenport et al. teach a woven base fabric having both MD yarns and CD interdigitated loops.

6. Applicants go on to generally urge that all of the dependent claims are also not taught by Rexfelt or Davenport. In response, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 26-35, 38-42, 44-56 are rejected under 35 U.S.C.102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rexfelt et al. (US 5,360,656).

Rexfelt et al. teach that two or more spirally-wound layers in which the spiral turns in the different layers are placed crosswise, i.e. such that the longitudinal threads of the strip in one layer make an angle both with the machine direction of the press felt and with the longitudinal threads of the strip in another layer. Variations in the thread tension across the base fabric can be reduced considerably, since the longitudinal threads of the final layer (=warp threads of a flat-woven strip) are not parallel to the machine direction of the press felt. Instead, the tension at each point becomes a mean of the tension in many different longitudinal threads. No irregularities are formed at the loom edges during weaving and the crossed longitudinal threads means an increased flow resistance and that two or more such spirally-applied layers can also be made with different thread spacings in the different layers. See col.3.

In figures 1 and 2, Rexfelt et al. illustrates a flat-woven fabric strip of yarn material having two mutually orthoganol thread systems consisting of longitudinal

threads (warp threads) and cross threads (weft threads) with two longitudinal which are cut before the strip is wound on to the supply reel. See col.4,ln.20-60

In figure 3, Rexfelt et al. illustrates that each longitudinal thread (warp thread) of the strip makes an angle with the machine direction MD of the fabric/press felt. These oblique longitudinal threads run uninterrupted through the entire base fabric layer, whilst the cross threads (weft threads) are intermittently interrupted. Rexfelt et al. also teach that it is commonly known that a traditional tubular-woven endless base fabric, has the longitudinal threads (weft threads) parallel to the machine direction and the cross threads (warp threads) run uninterrupted across the entire width of the base fabric. See col.4,ln.60-col.5,ln.5.

In figure 4 Rexfelt et al. illustrate a multilayer type spirally-wound layers placed crosswise on each other yielding the advantage of an increased flow resistance occurring, since the longitudinal threads in both layers make an angle with each other. Rexfelt et al. also teach a textile dispensed with a spirally-wound layer of base fabric combined with a traditionally tubular-woven layer of base fabric to form a base fabric of multi-layer type. See col.5,ln.10-15.

Rexfelt et al. illustrate in figure 5 how the end edges of two juxtaposed spiral turns are in edge-to-edge relationship and joined by sewing. Figure 5 also schematically illustrates a top layer of fiber material, such as a batt layer, arranged on the base fabric by needling. See col.5,ln.30-35.

Rexfelt et al. illustrate in figure 6 shows an adjacent longitudinal edge portions of adjoining spiral turns are arranged by overlapping, wherein the edges having a reduced

thickness so as not to give rise to an increased thickness in the area of transition. See col.5,ln.40-45.

In figure7 Rexfelt et al. illustrate that the spacing between longitudinal threads is increased at the edges of the strip and the longitudinal threads of the edge portions are interlaced. The result is an unchanged spacing between longitudinal threads in the area of transition. See col.5,ln.45-50.

Accordingly, the teachings of Rexfelt et al. anticipate the material limitations of the instant claims.

Alternatively, even if the teachings of Rexfelt et al. are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art, to arrive at a textile structure made of spiral winding machine direction (MD) yarns to form a system having a defined width; and depositing a pattern of cross machine direction (CD) elements onto said system of MD yarns because Rexfelt et al. teach a patterned PMC textile structure having spirally-wound layers placed crosswise on each other wherein the longitudinal threads make an angle with each other and can be combined with a traditionally tubular-woven layer of base fabric to form a multi-layer type fabric.

8. Claims 26-39, 42-43, 45-48, 50-56 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Davenport (US 20020139503).

Davenport teaches an on-machine-seamable papermaker's fabric has a base structure which is a flattened array of a spirally wound multicomponent yarn. The flattened array has two layers, two sides, a length, a width and two widthwise edges. In each turn of the spiral winding, the multicomponent yarn has a substantially lengthwise orientation and is joined side-by-side to those adjacent thereto by a fusible thermoplastic material in each of the two layers. The multicomponent yarn forms seaming loops along the two widthwise edges. At least one layer of staple fiber material is needled into one of the two sides of the base structure and through the two layers. See abstract.

Davenport teaches that the multicomponent yarn is spirally wound to a desired width, portions of the array are exposed to heat at a temperature sufficient to melt the at least one thermofusible strand or coating, but not the other individual yarn strands, of the multicomponent yarn. The fused thermoplastic material of the thermofusible strand, strands or coating flows between adjacent turns of the multicomponent yarns in the array. When the fused thermoplastic material is allowed to solidify, it joins the adjacent multicomponent yarns to one another in a side-by-side manner. See [0024]

Davenport teaches that the array of multicomponent yarns is flattened, and, as such, has two layers, two sides, a length, a width and two widthwise edges. The multicomponent yarn in each of the plurality of turns has a substantially lengthwise orientation in each of the two layers. Along the two widthwise edges of the flattened array are a plurality of seaming loops formed by the multicomponent yarn. The seaming

loops, preferably, are formed by every other turn of the multicomponent yarn. See [0025].

Davenport teaches that the individual yarn strands of the multicomponent yarn 16, other than the thermofusible strand or strands, are extruded from synthetic polymeric resin materials, such as polyamide, polyester, polyetherketone, polypropylene, polyaramid, polyolefin, polyphenylene sulfide (PPS) and polyethylene terephthalate (PET) resins, and copolymers thereof, and incorporated into yarns according to techniques well known in the textile industry and particularly in the paper machine clothing industry. See [0041]. The thermofusible strand, strands or coating are of a thermoplastic material having a melting point lower than that of the other individual yarn strands making up the multicomponent yarn 16. The thermoplastic material may, for example, be polyamide 66, low-melt polyamide 6 or polyurethane. See [0042].

Davenport teaches that the press fabric is planar and has no yarn knuckles, thus is smooth. There are no cross-machine-direction (CD) yarns to unravel to form the loops required for seaming, yet the base structure has CD stability because the machine-direction (MD) yarns are bonded side-by-side to one another. The cost to produce a multilayer structure in accordance with the present invention is less than that of the prior-art woven structures. Finally, the Z-direction compressibility, openness and void volume of the base structure can be controlled by preselecting the number of thermofusible strands in the multicomponent yarn. See [0062].

Accordingly, the teachings of Davenport anticipate the material limitations of the instant claims.

Alternatively, even if the teachings of Davenport are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art, to arrive at a textile structure made of spiral winding machine direction (MD) yarns to form a system having a defined width; and depositing a pattern of cross machine direction (CD) elements onto said system of MD yarns because Davenport teach an on-machine-seamable papermaker's textile structure having multicomponent yarn that is spirally wound to a desired width, and having cross machine direction stability.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PREETI KUMAR whose telephone number is (571)272-1320. The examiner can normally be reached on 7:30 am-3:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. K./
Examiner, Art Unit 1796

/Gregory R. Del Cotto/
Primary Examiner, Art Unit 1796